

ABSTRACT

A method and composition for treating a metal surface, particularly steel, involves contacting the metal surface with a pretreating solution comprising a blend of water, an organo-functional silane, and a borate ester. The method involves first cleaning the metal surface, such as by using an alkaline cleaning agent, then rinsing prior to the application of the pretreating solution. The metal surface is dried and, either immediately thereafter or after some storage time, then contacted with a decorative finish, such as paint, completing the metal treatment method. The method and composition minimize rusting of the metal surface even if a relatively long period of time elapses between drying the pretreated metal surface and painting the metal surface. In addition, the method and composition provide good adhesion of the decorative finish to the metal surface. The composition may also be used in the treatment of a metal surface as a final seal for a metal which has already been pretreated, for example by an iron phosphate pretreating solution.